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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,309

09/05/2003

Robert St-Amour

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8193

7590

07/12/2005

FAY KAPLUN & MARCIN, LLP  
Suite 702  
150 Broadway  
New York, NY 10038

EXAMINER

GABOR, OTILIA

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/656,309	Applicant(s) ST-AMOUR ET AL.	
	Examiner Otilia Gabor	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/05/03;02/17/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Canada on 09/06/2002. It is noted, however, that applicant has not filed a certified copy of the above application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Descales et al. (U. S. Patent 6,070,128).

Regarding claims 1, 3-5, 6, 8, 15, 21, 23, 25, 26, 27, 28, 30, 35 Descales

discloses an apparatus and method for evaluating a sample material and predicting certain properties of the sample material using FT-NIR analysis. The apparatus comprises means (spectrometer) to generate a set of spectral data from the sample and means to analyze (computer processor) the set of spectral data, which means also includes a set of data that is indicative of features of the sample that is relevant to determine or predict such a property and how that property will change the overall process in which the material sample is used. In operation, the infrared spectrometer is linked to a computer programmed so that the property or yield can be determined continuously in real time. The spectrometer is suitable for measuring spectra in the 600-2600 nm range, which mostly corresponds to the NIR range of the IR range. The prediction of the yield of the determined property is done by comparing the detected spectral data to the previously recorded set of spectral data and/or mathematical algorithm indicative of a certain property and yield. The spectral data is generated by irradiating the sample with radiation in the specific range, having a specific frequency (NIR range that has frequency in the  $12800\text{-}4000\text{ cm}^{-1}$  range) and detecting the absorbed radiation using a detector, which is part of the spectrometer.

Descales fails to specifically disclose that the sample is a printing medium sample which is used in a printing process, however since he discloses that his method can be utilized in a variety of sample materials used in a variety of processes where the property and yield needs to be determined in order to predict how this property will affect the material, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the process of Descales with a sample that is used in the printing process.

Regarding claims 2, 16, 22, 24 Descales discloses that the computer is linked to the spectrometer and it is programmed to control what happens to the sample based on the measured property and yield (see Col.17, line 50-Col.19, line 28).

Regarding claims 7, 17, 29, 36 Descales discloses that the spectral data set is determined based on the sample's response to different and complimentary irradiations in the IR and NIR wavelength range (see Tables), where through this irradiation with multiple wavelengths the sample is tested for different mechanical, physical and functional properties (see Col.19, lines 28-47) by comparing the reference with the measured spectra.

Regarding claims 9-11 Descales discloses that the spectral data sets are generated by first generating light having a predetermined frequency characteristics; irradiating the sample with this light; absorbing light in the sample; detecting the light not absorbed in the sample; collecting the radiation response over time; converting the radiation response to an analog response; converting the analog to a digital response; supplying this digital response to a computer; and mathematically converting the response into a spectral response (i.e., FTIR processing).

Regarding claims 18-20, 36-40 Descales discloses sets of spectral responses generated at different wavelengths and their deviations from the reference spectral sets whereby only data that fits in the determined (calculated) tolerance range will be further

processed and used to correlate the physical, mechanical and functional properties of the sample (see Tables).

Regarding claims 12, 13, 32, 33 Descales detects the characteristic properties of the sample based on the absorption data, and thus fails to specifically disclose that the obtained spectral data is compared to a reflected or scattered reference spectral data, however such comparison is within the skill of one in the ordinary skill in the art since it is well known that when absorption is to be determined the radiation that is not absorbed is the one that is detected and such a radiation is one that is reflected or scattered by the sample. Also, in order that reflected and/or scattered radiation is detected the detector has to be positioned at an angle relative to the sample, for otherwise none of the reflected or scattered radiation can be detected.

Regarding claims 14, 34 Descales fails to specifically disclose that the sample is in a gas-tight enclosure, however since it discloses that real time on-line measurement is being done on samples some of which inherently contain volatile components (fuels in diesel engines), it would have been obvious to have these components in a gas-tight enclosure to secure the safety in the measuring environment.

Regarding claim 31 Descales fails to disclose a portable unit for remote probing of the sample, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to include such a feature so that volatile hazardous samples can be safely monitored.

**Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Rabolt et al. (6,784,428); Koguchi et al. (5,578,824) ; McFarland et al. (6,849,460) ; Schwartz et al. (2005/0031910) ; Mueller et al. (2001/0055052).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 571-272-2435. The examiner can normally be reached on Monday, Thursday-Friday between 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Otilia Gabor  
Primary Examiner  
Art Unit 2878

